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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* ROBERT L. POPP, MICHAEL T. MORMAN, PAUL  
VANGOMPEL, PAUL M. LINKER, and DEBRA DURRANCE

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Appeal 2008-0182  
Application 10/038,818  
Technology Center 3700

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Decided: January 25, 2008

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Before DONALD E. ADAMS, NANCY J. LINCK, and JEFFREY N.  
FREDMAN, *Administrative Patent Judges*.

FREDMAN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to a mechanical fastening system, which the Examiner has rejected under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a). We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

## BACKGROUND

“Common forms of mechanical attachment systems are the so called hook-and-loop system which comes in various forms” (Specification 1). According to the Specification, in using fasteners with absorbent articles like diapers, “the fastening system is preferably refastenable so that the article can be temporarily removed and then refastened to the wearer” (Specification 1). The Specification notes that a “disadvantage of this type of hook-and-loop system is the tendency of the hooks to separate from the loop material when the wearer is active, such as when stooping or bending as is common with a child” (Specification 1).

Appellants teach that the “present invention overcomes the above-described difficulties and disadvantages associated with such prior art mechanical fastening systems by providing a hook-and-loop fastening system in which the loop material is a multi-directional stretchable material made with a nonwoven face and an elastic base material (Specification 2).

### *The Claims*

Claims 19 and 25 are on appeal. Claims 3 and 20-23 were not appealed. Claims 19 and 25 read as follows:

19. A mechanical fastening system for an article, comprising:  
a loop component mountable on the article and capable of elastic stretching in at least two directions, said loop component being capable of being elastically stretched in at least one of the directions at least about 2.0 times a relaxed length of the loop component, said loop component comprising a neck-stretched non-woven material and an elastic substrate, said elastic substrate being elastically stretchable in at least two directions, said non-woven material being attached directly to the elastic substrate; and

a hook component mountable on the article and capable of fastening engagement with the loop component to secure the article in a fastened configuration;

whereby when the hook component is juxtaposed and engaged with at least a portion of the loop component, the loop component is stretchable during limited movement of the loop component relative to the hook component.

25. A mechanical fastening system as set forth in claim 19 wherein said loop component is capable of being elastically stretched in at least one of the directions at least about 2.5 times a relaxed length of the loop component..

#### *The Issues*

The Examiner relies on the following prior art references to show unpatentability:

Hetzler et al., U.S. Patent 5,910,136, June 8, 1999 (hereafter “Hetzler”).

Morman et al., U.S. Patent 5,883,028, March 16, 1999 (hereafter “Morman ‘028”).

Morman, U.S. Patent 5,116,662, May 26, 1992 (hereafter “Morman ‘662”).

Morman, U.S. Patent 5,114,781, May 19, 1992 (hereafter “Morman ‘781”).

The rejections as presented by the Examiner are as follows:

- A. Claims 19 and 25 stand rejected under 35 U.S.C. § 102(b), as being anticipated by Hetzler.
- B. Claims 19 and 25 stand rejected under 35 U.S.C. § 103(a), as being obvious over Morman ‘028, Morman ‘781, Morman ‘662 and Hetzler.

A. § 102(b) over Hetzler

The Examiner's position is that the Hetzler reference teaches the entire claimed structure, particularly a "prestrained, nonwoven material directly attached to an elastic substrate and the component and elastic are capable of stretching in multiple directions, i.e. the CD and MD directions" (Answer 5). The Examiner argues that Hetzler teaches that the elastic can stretch 2.0 or 2.5 times its relaxed length (*see* Answer 5).

Appellants contend

Hetzler fails to show or suggest a mechanical fastening system including a loop component that is mountable on an article, capable of elastic stretching in at least two directions, and is elastically stretchable to at least 2.0 times a relaxed length in at least one of the directions, and is constructed of a neck-stretched non-woven material attached directly to an elastic substrate.

(App. Br. 5.)

In view of these conflicting positions, we frame the issue before us as follows:

Does Hetzler teach a hook and loop fastening system mounted on a neck stretched non woven elastic material which is elastically stretchable in two directions, and stretchable at least 2.0 times in one of those directions?

*Findings of Fact*

1. Hetzler teaches a material that is elastically stretchable in two directions, the cross machine direction and the machine direction (Hetzler, col. 9, ll. 30-36)

2. Hetzler teaches that material is nonwoven, specifically "fibrous nonwoven webs" (Hetzler, col. 9, ll. 37-40).

3. Hetzler teaches that the material “can be necked polypropylene” (Hetzler, col. 9, ll. 55-56).

4. Hetzler teaches that “[a]rticles 80 such as diapers may also include some type of fastening means 88 such as adhesive fastening tapes or mechanical hook and loop type fasteners to maintain the garment in place on the wearer. The fastening system may contain stretch material to form ‘stretched ears’ for greater control” (Hetzler, col. 11, ll. 8-13).

5. Hetzler discusses the term “elastic” and indicates that elastic materials will elongate to “at least about 150 percent of its relaxed unbiased length” (Hetzler, col. 7, ll. 24-25).

6. Hetzler notes that many “elastic materials may be stretched by much more than 50 percent of their relaxed length, for example, 100 percent or more” (Hetzler, col. 7, ll. 31-33).

7. Hetzler teaches that the laminate of sample A of Hetzler’s invention had a peak machine direction elongation of 263% (Hetzler, table II, col. 16, ll. 1-4).

*Discussion of § 102(b) over Hetzler*

We find that Hetzler teaches a hook and loop fastening system comprising all of the required elements of claim 19 including elasticity in two directions and the ability to be stretched 2.0 times in a direction (*see* FF 1-7).

We agree with Appellants that Hetzler’s definition of an elastic that is elongatable to a length of 150% means that the elastic can stretch to 1.5 times its original length (*see* App. Br. 8). However, Appellants do not comment on the next sentence of Hetzler definition, “elastic materials may

be stretched by much more than 50 percent of their relaxed length, for example, 100 percent or more” (Hetzler, col. 7, ll. 31-33). A stretching to 100 percent of the relaxed length (following Hetzler and Appellant) would result in a 1 inch sample being stretched to two inches, which is 2.0 times its relaxed length, meeting the requirement of claim 19. In fact, Hetzler exemplifies in Table II, a preferred material termed laminate A that has peak machine direction elongation of 263% (FF 7). Following the same logic as Appellants in regard to the 150% elongation, which is 1.5 times the relaxed length, we conclude that 263% elongation would represent 2.63 times the relaxed length, which is at least about 2.0 as required by claim 19 and at least about 2.5 as required by claim 25.

We consequently also reject Appellants’ argument that the “flexible polyolefins of Hetzler would almost certainly break if stretched to a length twice a relaxed length (as required by claim 19)” (App. Br. 6). Hetzler’s disclosure of a particular material that can be stretched 2.63 times its relaxed length in table II factually contradicts Appellants’ argument. Appellants have provided no evidence to support the position that the Hetzler’s compounds would be inoperative. Arguments of counsel cannot take the place of factually supported objective evidence. *See In re Kahn*, 441 F.3d 977, 990 (Fed. Cir. 2006).

We also reject Appellants’ argument that “Hetzler discusses several different laminates that can be made, but never specifically describe a loop component stretchable in two directions” (App. Br. 6). In fact, Hetzler expressly discusses laminates which are stretchable in two directions, stating that the

direction of elasticity in the laminate may be tailored by the state of the film, ie., whether it is relaxed or stretched, during the bonding with the support layer, as well as the physical property of the support layer material. For example, if the film is relaxed prior to bonding and the support layer is extensible in the cross-machine direction ("CD"), then a laminate with both CD and machine-direction ("MD") stretch can be produced.

(Hetzler, col. 9, ll. 26-33.) Hetzler's express discussion of having the direction of elasticity form in both the cross-machine and machine-direction represents two directions.

We also reject Appellants' argument based upon *In re Arkley*, 455 F.2d 586 (CCPA 1972) that the "Examiner must pick and choose among the various disclosures in Hetzler (which is directed to producing breathable material, not a stretchable loop component) to reject claim 19. This stands in clear contradiction to *In re Arkley*" (App. Br. 7). We do not think that this factual scenario represents a "picking and choosing" situation. Hetzler teaches a preferred material in Table II which meets the extensibility requirements and teaches the use of the inventive material as an elastic for hook and latch closures on diapers. *See Perricone v. Medicis Pharmaceutical Corp.*, 432 F.3d 1368, 1375 (Fed. Cir. 2005) ("A single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation"). In this case, Hetzler discloses all of the limitations of claims 19 and 25 and consequently anticipates those claims (*see* FF 1-7).



*B. § 103(a) over Morman '028, Morman '662, Morman '781, and Hetzler*

The Examiner contends that Morman '028 teaches a “neck stretched or prestrained material 12 [that] is directly attached to an elastic substrate which is stretchable in two directions to form a laminate which is capable of elastic stretch in two directions and the material 12 is necked in the cross direction of the laminate” (Answer 6). The Examiner argues that the Morman '781 and Morman '662 references provide equivalent disclosures (*see* Answer 6). The Examiner relies upon Hetzler for the remaining elements of a hook and loop fastener and argues that the combination of Morman '028 with Hetzler would have been obvious “in view of the interchangeability as taught by Hetzler” (Answer 7).

Appellants argue: “There is no suggestion or teaching found in either Morman '028 or Hetzler that would motivate one skilled in the art to replace the loop fastener of Hetzler with the laminate disclosed by Morman '028. That such a replacement can be made does not render the replacement obvious” (App. Br. 12).

In view of these conflicting positions, we frame the issue before us as follows:

Would the combination of the laminates of Morman '028, Morman '662 and Morman '781 with the hook and loop fastener of Hetzler have been a predictable use of prior art elements according to their established functions at the time the invention was made?

*Findings of Fact*

In addition to the facts found regarding Hetzler (*see supra*, pp. 4-5), we find:

8. Mormon '028 discloses an elastic material that may be stretched up to 100 percent, which will result in stretching to 2.0 times its relaxed length (*see* Mormon '028, col. 3, ll. 2-5).

9. Mormon '028 teaches necked bonded woven material (Morman '028, col. 4, ll. 11-15).

10. Mormon '028 teaches that the “resulting composite laminate is stretchable in at least two nonparallel directions” (Morman '028, col. 12, ll. 5-7).

11. Mormon '662 discloses a laminate which was stretched to 114% CD elongation, which would result in stretching to 2.14 its relaxed length (*see* table 8, col. 20).

12. Mormon '781 teaches that  
if it is desired to prepare a composite elastic material including a reversibly necked material which is stretchable to a 150% elongation (i.e., stretched to a length that is about 250 percent of its initial relaxed length) in a direction generally parallel to the neckdown of the neckable material (e.g. cross-machine direction) and stretchable to a 100% elongation (i.e., stretched to a length that is about 200 percent of its initial relaxed length) in the perpendicular direction (e.g., machine direction)

(Morman '781, col. 13, ll. 47-56).

*Discussion of § 103(a) over Morman '028, Morman '662, Morman '781, and Hetzler*

The difference between the Morman '028, Morman '662 and Morman '781 laminates and claims 19 and 25 is the incorporation of a hook and loop for attachment of the absorbent articles. Morman '028, Morman '662 and Morman '781 teach laminates which meet the substrate requirements (FF 8-12). Hetzler teaches the incorporation of a hook and loop with laminates for attachment of the flaps of a diaper over the wearer (FF 4). Hetzler also teaches the use of laminates meeting the substrate requirements (FF 1-3, 5-7).

In *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007), the Supreme Court rejected the rigid teaching, suggestion and motivation test upon which Appellants rely (App. Br. 10). The Supreme Court indicated that when “a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability.” *KSR*, 127 S. Ct. at 1740.

Based upon the Examiner's findings and the findings of fact, we conclude that claims 19 and 25 would have been obvious to an artisan of ordinary skill (*see* FF 1-12). Appellants have simply combined the laminate of Morman '028, Morman '662, and Morman '781, designed for use with disposable diapers, with the use of a well known hook and loop attachment system for disposable diapers as shown by Hetzler. Such a combination is merely a “predictable use of prior art elements according to their established functions.” *KSR*, 127 S. Ct. at 1740.

We reject Appellants' arguments that Hetzler does not show elastically stretchable laminates for use in the disposable diaper construction, since Hetzler's expressly discusses having the direction of elasticity in both the cross-machine and machine direction (FF 1).

We also reject Appellants' argument that "Morman '028 and Hetzler, whether considered alone or in combination, fail to teach or suggest a loop component that is able to elastically stretch 2.0 times its relaxed length" (App. Br. 13). As noted above, the teachings of Morman '028 and Hetzler both teach that the elastic stretching may encompass 100% elongation, which would represent 2.0 times the relaxed length (*see* FF 6, 8). We also discussed that Hetzler exemplifies a laminate which stretches to 2.63 times its relaxed length (*see* FF 7). In addition, Morman '662 expressly discusses formation of laminates that are stretchable to 250 percent of the relaxed length or 2.5 times the relaxed length in one direction and stretchable to 2.0 times the relaxed length in the other direction (*see* FF 12).

Based on the above, we conclude the Examiner has made a *prima facie* case of obviousness under 35 U.S.C. § 103(a) (FF 1-12).

#### SUMMARY

We affirm the rejections of claims 19 and 25 as anticipated by Hetzler. We also affirm the rejection of claims 19 and 25 as obvious in view of Hetzler, Morman '028, Morman '662, and Morman '781.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv)(2006).

AFFIRMED

Ssc:

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